

# **EWP Fleet Replacement**

## **Business Case**

26 November 2024





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## 1 EXECUTIVE SUMMARY

Title	EWP Retruck and Replacement				
DNSP	Energex and Ergon Energy Network				
Expenditure category	☐ Replacement ☐ Augmentation ☐ Connections ☐ Tools and Equipment				
	□ ICT□ Property ⊠ Fleet				
Identified need	□ Legislation    □ Regulatory compliance				
(select all applicable)	☐ Reliability ☐ CECV ☐ Safety ☐ Environment ☐ Financial ☐ Other				
	Energy Queensland Limited (EQL) has a number (474) of Elevated Work Platforms (EWPs) in its fleet. This fleet is critical to the safe, efficient, and reliable operation of the network. Of the fleet of EWPs, a significant number are due for replacement in the 2025-30 period.				
	The Fleet Asset Management team is continuously reviewing fleet asset life cycles to optimise return on investment, with consideration given to on-going operating and maintenance costs, reliability, industry standards, market supply challenges, disposal value and emerging safety features.				
	Australian Standards AS 1418 and AS 2550 require that EWPs undertake a major inspection at 10 years of service life to remain compliant.				
	The current replacement strategy for EWPs is to:				
	10YMI rebuild at 10 years on 90% of Energex and 70% of Ergon assets. This extends the life of an EWP asset to 15 years. All remaining assets are replaced new.				
	<ul> <li>Total service life (rebuilds) = 15 years plant, 15 years truck</li> <li>Total service life (replacements) = 10 years plant, 10 years truck</li> </ul>				
	A rebuild means that an EWP asset is out of service for 20 weeks. Energex and Ergon Energy Network need to ensure that sufficient plant is available to cover this period of downtime, or alternatively, a unit is rented for this period. EQL is also observing increased downtime and reduced reliability from aged and rebuilt assets.				
Summary of preferred option	The preferred solution is Option A, which represents an appropriate balance of capital investment, operating cost reduction, and capital delivery risk.  This includes:				
	<ul> <li>the alignment and reduction of rebuild rates across the two DNSPs to 50%</li> <li>10YMI on 50% EQL assets, to extend life of plant</li> <li>Retrucking at the 10YMI (together with an additional 15YMI) to extend the life of rebuilt assets to a total of 20 years.</li> </ul>				
Capital Expenditure	Year 2025-26 2026-27 2027-28 2028-29 2029-30 2025-30				
	60.7				
	The capital expenditure forecast above sourced from the NPV model is provided in \$m, 2022-23. See Appendix 2 for a conversion table which shows how this forecast is represented in the capex model.				
	Note: This forecast refers to the capex required for vehicles impacted by the rebuild/replace strategy only. This is less than the total forecast capex for EWPs.				
NPV	+\$12.4m (compared to counterfactual)				



Benefits	The benefits of the preferred option include:			
	<ul> <li>Increased employee safety</li> </ul>			
	Increased employee productivity			
	<ul> <li>Reduced operating costs and downtime</li> </ul>			
	<ul> <li>Increased truck reliability through the provision of a retruck at 10 years (reduced life of truck on rebuilt assets from 15 years to 10 years)</li> </ul>			
Customer importance	Our fleet of vehicles are an essential enabler in supporting the investment, maintenance, and operational activities across our significant span of network assets for our customers and our community.			



#### 2 OVERVIEW

#### 2.1 Our response to the AER Draft Decision

We submitted our Regulatory Proposal to the AER on 31 January 2024. The AER did not accept the forecast capex associated with our proposed EWP strategy.

The AER's feedback included:

- "we found Energex/Ergon Energy Network had not provided sufficient evidence for its proposed changes to the replacement strategies of elevated work platforms (EWP) and crane borers"
- "has not substantiated the benefits of its proposed changes to the replacement strategies for EWPs and crane borers"
- "provided an estimate of an average avoided days out of service per asset. However, it provided no evidence or modelling in support of these figures. As this forms the basis of the benefits calculated in the NPV model, we do not consider that Energex's/Ergon Energy Network's conclusion that its preferred option has the lowest negative NPV is justified"

We are therefore resubmitting our business case for our EWP assets with additional information to support the downtime benefits calculation (see Appendix 4.2). The capex for our preferred option (Option A) has not changed.

We consider that the preferred Option A is the most prudent and efficient option, as it has the lowest NPV. We tested the sensitivity of the NPV to the value of the downtime benefits and found that with unscheduled downtime as low as 1 day per annum (compared to the 6 used in the analysis), that the NPV of the preferred option remains positive. In addition, our preferred option balances the moderate level of additional capex in the short term, against the supply constraints associated with both our rebuild partners and the availability of new build slots.

Moving to a strategy of 50% rebuild and 50% replacement with new, ensures that we have adequate stock levels to maintain a rebuild program going forward.

The capex of the preferred Option A is an additional \$20.1m (\$2022-23, total EQL) over the base case for the 2025-30 regulatory control period. This additional capex equates to approximately \$8.7m (\$2024-25, SCS) for Energex and \$10.6m (\$2024-25, SCS) for Ergon over the base case for the 2025-30 regulatory control period. We consider that this moderate increase in capex (above the base case) is justified not only on a cost-benefit basis, but also to ensure that we have the right mix of vehicles necessary to perform our core work.

## 2.2 Purpose and scope

The purpose of this business case is to provide a summary of EQL's proposed EWP replacement program (for units >14m) and to outline the options for the replacement of EWPs in the EQL fleet for the 2025-30 period. It provides a recommendation derived from analysis of different options as well as being informed by EQL's experience in operating EWPs over a number of regulatory periods.

The cost estimates included within this document are consistent with the unit costs included in the fleet replacement models for the 2025-30 revised regulatory proposal.

## 2.3 Background

The fleet of EWPs is critical to the safe, efficient, and reliable operation of the network. Figure 1 shows an EWP operating in the field.





Figure 1: Example EWP in operation

EWP assets have regulated maintenance requirements that are prescribed in relevant Australian Standards AS 1418 and AS 2550. MEWPs have a Manufacturer's design life of 25 years with 1000 hours operation per year, where routine and major inspections must be satisfactorily completed to achieve the design life operating period. Major (mechanical) inspections are required on completion of an initial 10 years in service, then at 5-year intervals, i.e. Major Inspection at 10, 15, 20, 25, years in service. Following 25 years in service the MEWP must be subjected to a comprehensive structural examination to operate beyond 25 years in service. In practice, prudent asset management includes structural inspections to be included in each Major Inspection, otherwise known as rebuild. This process requires the plant to be stripped down completely, permitting the inspection of mechanical and structural components of the MEWP, with worn components refurbished or replaced as needed. Electrical testing to acceptance testing voltages is also required as part of the major inspection process. This certifies the plant for a further 5 years, at the completion of which it must be either rebuilt again or replaced.

The current replacement strategy for EWPs is:

- 10YMI rebuild at 10 years on 90% Energex assets and 70% Ergon assets, to extend life of plant to 15 years. All other assets replaced new.
- No retruck at 10 years.
- Total service life (rebuilds) = 15 years plant, 15 years truck
- Total service life (replacements) = 10 years plant, 10 years truck

The optimal replacement criteria for each type of vehicle are set to maximise the efficiency of the asset and to ensure both lifecycle cost management and operational flexibility. The replacement program is also developed with consideration of relevant Australian and International Standards and Workplace Health and Safety legislation. It is recognised that capital and market constraints will from time-to-time mean some vehicles will not be replaced in accordance with replacement criteria. In these situations, replacement is prioritised based on safety requirements; then complying with Australian Standards; and then vehicle age, kilometres, and condition.



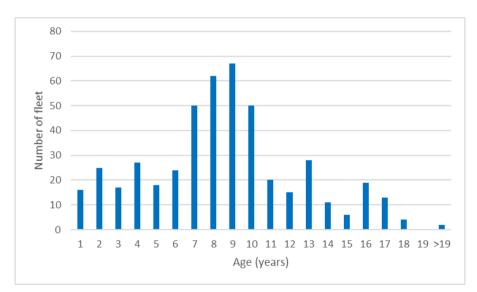
The Fleet Asset Management team is continuously reviewing fleet asset life cycles to optimise return on investment, with consideration given to on-going operating and maintenance costs, reliability, industry standards, market supply challenges, disposal value and emerging safety features.

#### 2.4 Identified Need

The table below provides an overview of the number of EWPs in the EQL fleet, with 168 assets being 10 years or older.

DNSP	Total EWP Assets in Fleet (as at 30 June 2023)			
Energex	245			
Ergon Energy Network	229			

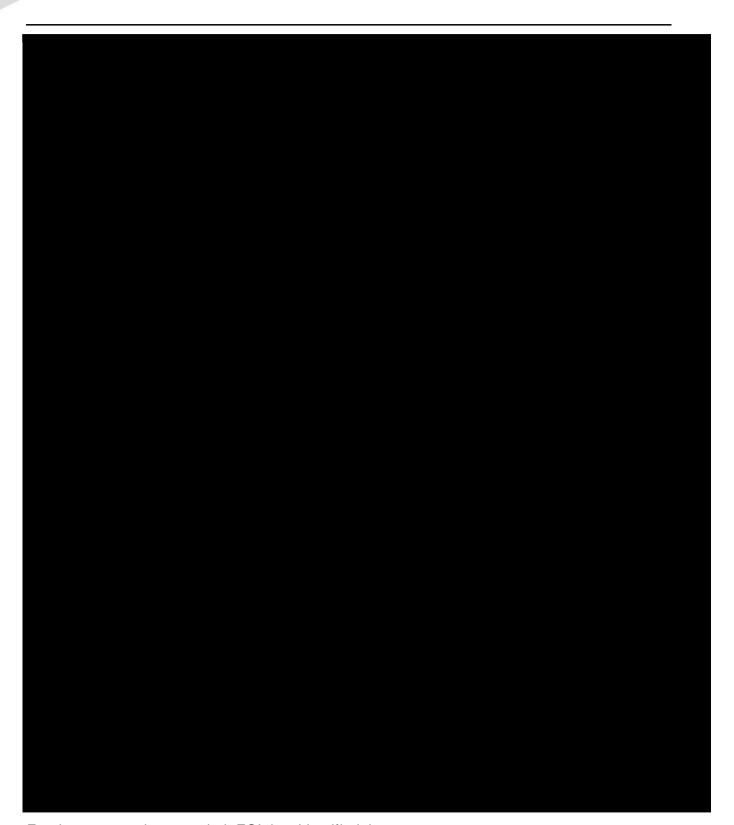
Figure 2: EWPs by age and count



As the EWP fleet ages, it can also result in an increase in operating costs (maintenance, repair, fuel etc). The aging impacts for some of the common EWP brands used by EQL are shown in Figure 3 below. Further, EWP breakdowns have a direct impact on network maintenance and capital delivery. The impact of breakdowns is discussed in section 3.2.3.







For the next regulatory period, EQL has identified that:

- There are 119 EWP assets that are eligible to be rebuilt (and are the subject of this business case)
- 61 EWPs are not eligible to be rebuilt and will be replaced with new

- 44 EWPs have already been rebuilt and will be replaced with new
- In addition, prior to 2025, EQL has identified 73 EWPs that have a rebuild already planned.

Table 1: EWPs Rebuild / replace number and strategy

Energex and Ergon Energy Network	Total Assets	Strategy
Assets <14m	61	Replace with new at 10 years
Assets >14m already rebuild	44	Replace with new at 15 years
Assets >14m with rebuild plans prior to 2025-30 period	73	Replace with new at 15 years
Other Assets >14m	119	Eligible for replace or rebuild

The drivers for the change in replacement approach include:

- Aging assets in fleet
- Downtime or reduced reliability of fleet for operational needs
- Lack of resources available to complete rebuilds
- Lack of available loan vehicles available from existing fleet while rebuild is in progress (requiring EQL to hire assets for 20+ weeks)
- High opex/aging truck assets driving retruck strategy
- Greater alignment with other DNSPs

#### 2.5 Customer importance

Our fleet of vehicles are an essential enabler in supporting the investment, maintenance, and operational activities across our significant span of network assets for our customers and our community. EWP breakdowns and unavailability has a direct impact on network maintenance and capital delivery and therefore customer service.

## 2.6 Comparison to peers and industry

EQL's proposed replacement strategy is generally aligned to its peers as demonstrated in the benchmarking outlined in the table below.

Table 2: Comparison of EWP asset replacement approach to other DNSPs

Network	Replacement Criteria		
Ausgrid	15 years		
South Australian Power Network	10 years		
Endeavour Energy	10 years		
Essential Energy	10 years		
Power and Water	10 years		
CitiPower / Powercor	15 years		



Network	Replacement Criteria		
Energex and Ergon Energy	10 years initially, plus additional 10 years with 10YMI, 15YMI and retruck for selected assets		

Figure 4 below provides an overview of the volume and age of EWPs across the energy industry (information provided by SG Fleet).

120 ■ Essential ■ NorthPower ■ Powerlink ■ Transgrid 80 SA Power SE QLD Volume 60 ■ North QLD ■ Jemena/Zinfra Ausgrid 40 20 0 2010 2011 2012 2013 2014 2019 2022 2023 2009 2015 2016 2017 2018 2020 2021 Pre 2009 In Service Year

Figure 4: Number of EWPs and Age Profile across DNSPs

#### **3 OPTIONS ANALYSIS**

## 3.1 Options overview

The table below provides a high-level description of the options considered.

Table 3: Options considered for NPV analysis

Option	Description	Maximum asset life	
Counterfactual (Base Case)	yours: 7th other assets replaced new:		
Option A	Rebuild rate = 50% EQL     10 years initial life     10YMI on 50% EQL assets, to extend life of plant to 15 years.     15YMI on rebuilt assets to extend life to 20 years     Retruck at 10 years     Total service life (rebuild) = 20 years plant, 10 years truck     Total service life (replacements) = 10 years plant, 10 years truck		
Option B	Option B Replace all assets with new assets at 10 years (no 10YMI or retruck where relevant)		

## 3.2 Assumptions

#### 3.2.1 General

**Table 4: General assumptions** 

Assumption	Value	Applicable Option
Time period (for NPV)	20 years	All options
WACC (pre-tax real)	3.5%	All options

#### 3.2.2 Capital and operating costs

Table 5: Capital and operating cost assumptions (Confidential)

Assumption	Item	Va	lue \$2022-23	Applicable Option
Capital costs	New MEWP			All options
(\$2022/23) (See Appendix 5 for	Truck			All options
details)	10YMI (plant and truck)			Counterfactual



Assumption	Item	Value \$2022-23	Applicable Option
	10YMI (plant only)		Option A only
	Retruck		Option A only
	15YMI		Option A only
	EWP 0-10 years		All options
Operating	EWP 10-15 years		Counterfactual, Option A
costs (\$ per	EWP 15-20 years		Option A
annum per vehicle)	Truck 0-10 years		All options
vernole)	Truck 10-15 years (no retruck)		Counterfactual
	Hire of EWP during rebuild		Counterfactual, Option A

#### 3.2.3 Benefits

The aged heavy vehicle (truck) assets in the 10-15 year age bracket experience additional unscheduled downtime compared to assets in the 0-10 year age bracket. The table below outlines the estimated average days out of service by age. This data has been estimated by our service provider *SG Fleet* based on data collected for the two main heavy vehicle (truck) assets used by EQL for our EWPs.

Table 6: Average days out of service (unscheduled downtime)

Age of heavy vehicle	Average days out of service (unscheduled downtime)
0-5 years	1.7 days per annum
10-15 years	8.5 days per annum

The net benefit of the proposed retruck (ie. purchase of a new truck) at the 10YMI point is therefore just under 7 days per annum in downtime. EQL has applied an estimate of 6 days per annum for the purposes of the NPV analysis.

The reduced downtime has been applied to the estimated costs we expect to incur due to a vehicle breakdown. Benefits have been applied to both Option A and Option B. Additional information to support the calculation of benefits is provided in Appendix 4.2.

Table 7: Estimated additional costs due to single vehicle breakdown

Job type	Estimated additional cost

#### 3.2.4 Replacement volumes

The replacement volumes applied in the analysis are outlined in the table below. The replacement volumes for each option over the 20-year analysis period are presented in Appendix 4.

**Table 8: Replacement Volumes** 

Option	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Counterfactual						
Assets replaced new	6	7	4	4	6	27
Assets rebuilt	26	27	14	7	18	92
Total	32	34	18	11	24	119
Option A						
Assets replaced new	16	17	9	6	12	60
Assets rebuilt	16	17	9	5	12	59
Total	32	34	18	11	24	119
Option B						
Assets replaced new	32	34	18	11	24	119
Assets rebuilt	0	0	0	0	0	0
Total	32	34	18	11	24	119

#### Other assumptions include:

- The replacement volumes consider only assets >14m eligible for replacement or rebuild in the 2025-30 period.
- The NPV analysis excludes:
  - o Any additional assets in the fleet which are assumed to be replaced with new assets
  - o Assets <14m which are assumed to be replaced with new assets
  - Assets >14m already rebuilt or with planned rebuild prior to FY26

## 3.3 Financial Summary

#### 3.3.1 Expenditure summary 2025-30

Table 9: Capital and operating expenditure summary 2025-30

Capital expenditure (\$m, direct 2022-23)	2025-26	2026-27	2027-28	2028-29	2029-30	Total 2025-30
Counterfactual (Base)						\$40.6
Option A						\$60.7
Option B						\$72.9
Operating expenditure (\$m, direct 2022-23)	2025-26	2026-27	2027-28	2028-29	2029-30	Total 2025-30
Counterfactual (Base)	\$2.1	\$2.8	\$2.4	\$2.2	\$3.3	\$12.9
Option A	\$1.5	\$2.1	\$1.9	\$1.9	\$2.7	\$10.1
Option B	\$0.5	\$1.1	\$1.4	\$1.6	\$2.0	\$6.6
Benefits (\$m, direct 2022-23)	2025-26	2026-27	2027-28	2028-29	2029-30	Total 2025-30
Counterfactual (Base)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Option A	\$0.6	\$1.3	\$1.7	\$1.8	\$2.3	\$7.8
Option B	\$0.6	\$1.3	\$1.7	\$1.8	\$2.3	\$7.8

#### 3.3.2 NPV analysis

The results of the NPV modelling indicates that Option A returns the most favourable result over the modelling period.

Table 10: NPV analysis

Option	Counterfactual (Base) –	Option A –	Option B –
	90%/70% rebuild rate	50% rebuild rate	0% rebuild
	No retruck	Retruck at 10y	New assets only
Financial benefit	0	+\$12.4	+\$13.5



#### 4 RECOMMENDATION

Option A: is the recommended option based on the analysis conducted, based on both financial and non-financial considerations. There are market supply issues associated with a 0% rebuilt rate (Option B). Option A provides a balance between market supply considerations, reliability and additional capital expenditure.

The NPV over 20 years is +\$12.4m compared to the counterfactual (base case) option.

The investment provides additional benefits, including:

- Increased employee safety
- Increased employee productivity
- Reduced operating costs and downtime
- Increased truck reliability through the provision of a retruck at 10 years (reduced life of truck on rebuilt assets from 15 years to 10 years)
- Additionally, retrucking permits the timely introduction of alternative power/fuel outcomes for the heavy vehicles, for trucks with improved economy, efficiency, and reduced emissions in keeping with State and Federal Government targets
- Increased plant availability during rebuild
- Minimise risk in procurement and minimise the lead time to source spare parts
- Enables EQL to effectively deliver for our customers and communities for both routine and emergence response activities

**Table 11: Options Analysis Scorecard** 

Criteria	Counterfactual (Base) – 90%/70% rebuild rate	Option A – 50% rebuild rate	Option B – 0% rebuild, new assets only
Net Present Value (compared to counterfactual)	\$0.0	+\$12.4	+\$13.5
PV Capital & Operating cost (total across 20- year NPV model)			
Advantages over counterfactual	Maintains status quo	NPV positive over 20-year assessment period  Newer assets available in fleet  Maximum truck life of 10 years  Reduced operating and maintenance costs  Improved reliability/reduced downtime	NPV positive over 20-year assessment period  Newer assets available in fleet  Maximum truck life of 10 years  Reduced operating and maintenance costs  Improved reliability/reduced downtime
Disadvantages over counterfactual	Aged truck assets Issues with supply of EWPs during periods of rebuild	Higher capital cost in the 2020- 25 period  Replacing a higher proportion of assets may be impacted by any global and national demand pressures	Higher capital cost in the 2020- 25 period  Replacing a higher proportion of assets may be impacted by any global and national demand pressures  Market supply issues in obtaining 100% new assets



#### 4.1 Deliverability

EQL is anticipating that the demand for fleet will increase to accommodate the program of work over the 2025-30 regulatory period in addition to the normal replacement lifecycle.

To manage this increase in the procurement of fleet, the Fleet Services Team has taken the following steps to mitigate the risks to deliverability:

- Increased internal resources to support the end-to-end fleet management lifecycle
- Streamlining of work practices to align with changed supplier environment, including changes to procurement approach (i.e. bulk ordering)
- Diversifying supply chain

EQL has also entered into longer term contracts, with additional suppliers, which ensures the ability to increase supply as and when required and provides increased security for ongoing deliverability. EQL's ability to increase the number of suppliers has been aided through screening and due diligence processes provided by the Strategic Procurement Group.

#### 4.2 Change Impacts

Change impacts are expected to be minimal given it is only a minor change to current operations.

Proposed change management activities include:

- Stakeholder engagement
- Updating of relevant policies and procedures



## **APPENDICES**

a realistic expectation of the demand forecast and cost inputs required to achieve the capital expenditure

objectives

## **Appendix 1: Alignment with the National Electricity Rules**

#### Table 12: Recommended Option's Alignment with the National Electricity Rules

NER capital expenditure objectives	Rationale
A building block proposal must include the total forecast cap each of the following (the capital expenditure objectives):	oital expenditure which the DNSP considers is required in order to achieve
6.5.7 (a) (1) meet or manage the expected demand for standard control services over that period	
6.5.7 (a) (2) comply with all applicable regulatory obligations or requirements associated with the provision of standard control services;	
6.5.7 (a) (3)  to the extent that there is no applicable regulatory obligation or requirement in relation to:  (i) the quality, reliability or security of supply of standard control services; or  (ii) the reliability or security of the distribution system through the supply of standard control services, to the relevant extent:  (iii) maintain the quality, reliability and security of supply of standard control services; and  (iv) maintain the reliability and security of the distribution system through the supply of standard control services  6.5.7 (a) (4)  maintain the safety of the distribution system through the supply of standard control services.	The EWP forecast has been developed based on the expected demand for standard control services over the period.  The replacement of EWP fleet is critical to ensuring Energex and Ergon Energy Network are able to comply with regulatory requirements associated with the provision of standard control services.  The correct EWP fleet enables Energex and Ergon Energy Network to deliver the network program of work required such that the quality, reliability and security of supply are maintained.
NER capital expenditure criteria	Rationale
The AER must be satisfied that the forecast capital expen	nditure reflects each of the following:
6.5.7 (c) (1) (i) the efficient costs of achieving the capital expenditure objectives	
6.5.7 (c) (1) (ii) the costs that a prudent operator would require to achieve the capital expenditure objectives	The forecast vehicles have been selected to align with the expected services required over the period.  The capital expenditure has been developed based on recent actual pricing or quotations, or the escalation of historical costs where recent
6.5.7 (c) (1) (iii)	pricing information is not available.



## Appendix 2: Reconciliation to fleet replacement and capex model

The table below provides a reconciliation between the EWP fleet forecast (included in this business case) which is prepared in \$2022-23, with the fleet forecast in the AER capex model (\$June 2025).

Table 13: Reconciliation of business case forecast \$2022-23 to \$June 2025

Expenditure	DNSP	2025-26	2026-27	2027-28	2028-29	2029-30	2025-30
EWP NPV Model (EWP >14m eligible for rebuild) (\$m, 2022-23)	Energex & Ergon						60.7
Uplift, other adjustments, and EWPs not eligible for rebuild (\$m, 2022-23) <sup>1</sup>	Energex & Ergon						104.5
EWP Replacement Model (\$m, 2022-23)	Energex & Ergon	39.8	48.2	27.7	25.7	23.9	165.3
Allocation to DNSP (where appl	icable)						
DNSP capex (\$m, 2022-23)	Energex	17.1	20.7	11.9	11.1	10.3	71.1
DNSP capex (\$m, 2022-23)	Ergon	22.7	27.5	15.8	14.7	13.6	94.2
Allocation to SCS capex							
SCS capex (\$m, 2022-23)	Energex	15.4	18.7	10.7	9.9	9.2	63.9
SCS capex (\$m, 2022-23)	Ergon	18.8	22.8	13.1	12.2	11.4	78.2
Add escalation adjustments							
Escalation from \$2022-23 (Dec 2022) to \$2024-25 (June 2025)	Energex	1.7	2.1	1.2	1.1	1.0	7.2
Escalation from \$2022-23 (Dec 2022) to \$2024-25 (June 2025)	Ergon	2.1	2.6	1.5	1.4	1.3	8.8
Expenditure in AER capex model \$m, 2024-25	Energex	17.1	20.8	11.9	11.1	10.3	71.2
Expenditure in AER capex model \$m, 2024-25	Ergon	20.9	25.3	14.6	13.5	12.6	87.1

<sup>&</sup>lt;sup>1</sup> Includes additional capex for other minor modelling adjustments which account for the individual vehicle types used in the Fleet Replacement model (for simplicity, the NPV analysis uses an average vehicle type to determine the preferred strategy). In addition, there are a number of EWPs included in the replacement model which were not considered in the NPV analysis as per Table 1.



## **Appendix 3: Replacement volumes for each option**

## **Energex and Ergon Energy Network**

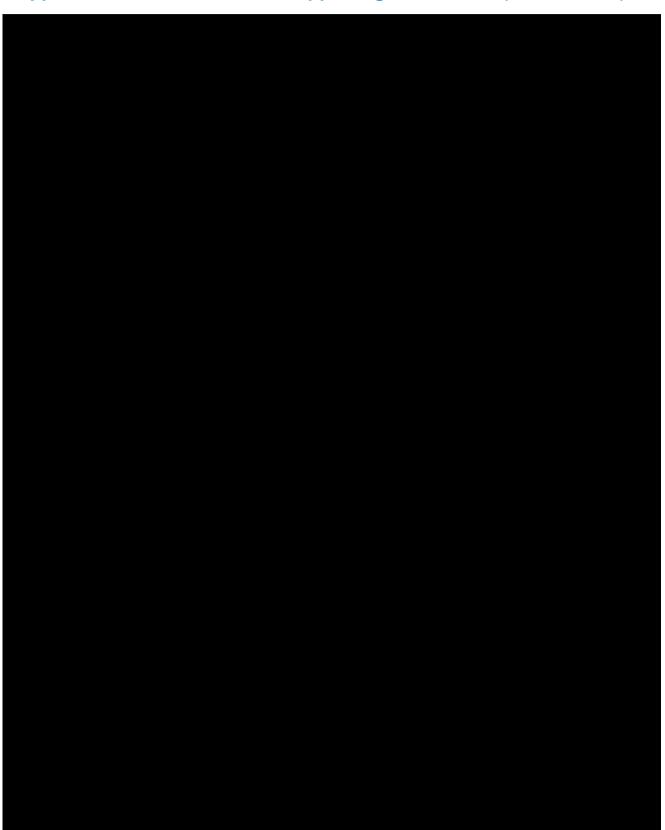
Base Case	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45
New	6	7	4	4	6	26	27	14	7	18	3	3	2	2	3	8	9	6	5	7
10YMI	26	27	14	7	18	0	0	0	0	0	3	4	2	2	3	21	22	10	4	14

Option A	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45
New	16	17	9	6	12	0	0	0	0	0	24	26	14	8	18	0	0	0	0	0
10YMI	16	17	9	5	12	0	0	0	0	0	8	8	4	3	6	0	0	0	0	0
15YMI	0	0	0	0	0	16	17	9	5	12	0	0	0	0	0	8	8	4	3	6

Option B	2025/26	2026/27	2027/28	62/8202	02/6707	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	62/8802	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45
New	32	34	18	11	24	0	0	0	0	0	32	34	18	11	24	0	0	0	0	0

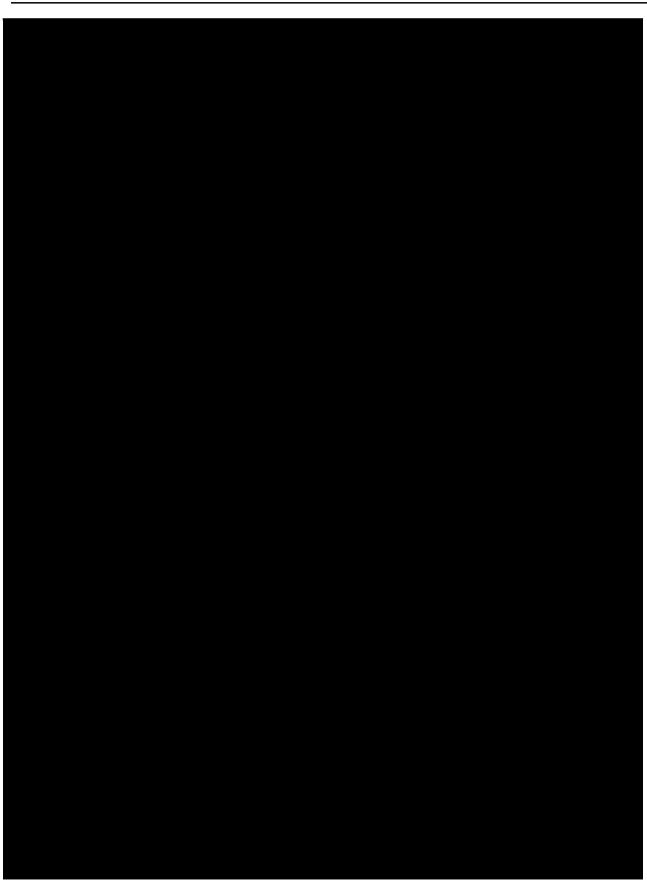


## **Appendix 4: Cost details and supporting information (Confidential)**



























## **Appendix 5: Glossary**

Term Definition

**AER** Australian Energy Regulator

AS Australian Standard

**DNSP** Distribution Network Service Provider

**EQL** Energy Queensland Limited

**EWP** Elevated Work Platform

**NPV** Net Present Value

**RIN** Regulatory Information Notice

WACC Weighted Average Cost of Capital